



Concord Municipal Light Plant

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ANNUAL SMART GRID REPORT

JULY, 2010

Since Article 20 passed on April 27, 2009, CMLP staff has been focused on the engineering and planning tasks necessary to deploy a complex array of fiber optic network and Smart Grid systems. These systems will provide the load management, homeowner web interface and other energy conservation programs called for under the article.

As of this report, the design of the fiber optic network has been completed and bids have been issued so that construction of the system can be started. By late summer, construction of the Smart Grid network will begin with completion expected by June or July of 2011. Naturally, the severity of our winter weather will directly affect our construction progress.

Installation of Concord's Smart Grid will be divided into four phases. Each phase is organized so that completion of the fiber optic network will lead to deployment of Smart Grid infrastructure. This will allow for an early rollout of energy conservation features to citizens in each of the specific areas represented by a particular phase. At this time, we estimate that the first phase will be ready for Smart Grid deployment in October of this year. A map of the phased implementation is available for public viewing at CMLP's website:

http://www.concordnet.org/pages/ConcordMA_LightPlant/smart%20grid

The table at the end of the report contains a Smart Grid Spending Report that provides details of the original budget for the project, the Bids and Purchase Orders that commit funds to the project and finally the funds that remain uncommitted at this time. Since we are still early in the construction phase of the Smart Grid, many areas of the budget have not been addressed. Much of the remainder of the budget is expected to be used in construction activities within the next two to three months. A contingency budget item is included to address unforeseen expenses that may occur during network installation. This report will be posted to the CMLP website and updated as construction proceeds.

Future reports will indicate completion or near completion of the construction phase of Smart Grid. New areas of reporting should include early operational results from savings measured through the load management, smart thermostat and Electro Thermal Storage heating programs. In addition, details of programs that are intended to improve internal operational efficiencies of the Light Plant such as system monitoring, power factor control and user-generated electricity will be outlined as the role of the Smart Grid infrastructure expands.

Smart Grid Spending Report

Updated:

2-Jul-10

Capital Expenditures	Original Budget	RFP/BID Number	Bid Amount	Purchase Order(s)	PO Amount	Balance of Original Budget
FTTx OSP Construction	\$ 1,984,651	1186	\$ 1,267,900			\$ 716,751
FTTx OSP Materials	\$ 1,213,970	1185 and 1912	\$ 700,829			\$ 513,141
FTTx OLT Hardware	\$ 130,000	1181	\$ 109,622			\$ 20,378
FTTx OLT Software	\$ 20,000	1181	\$ 18,983			\$ 1,017
FTTx Variable Capital Equipment	\$ 136,290	1181	\$ 34,500			\$ 101,790
NOC Facility Preparation	\$ 100,000					\$ 100,000
Engineering	\$ 306,797			13589,13875,13377	\$ 254,025	\$ 52,772
Smart Grid Collector Hardware	\$ 51,625	RFP 226	\$ 199,500	13609	\$ 199,500	\$ (147,875)
Collector Installation Labor	\$ 28,350					\$ 28,350
Smart Grid Software	\$ 12,761	RFP 226	\$ 13,000	13609	\$ 13,000	\$ (239)
Smart Relays	\$ 60,000	RFP 226	\$ 54,000	13609	\$ 54,000	\$ 6,000
Smart Thermostats	\$ 120,000	RFP 226	\$ 120,000	13609	\$ 120,000	\$ -
Test Equipment	\$ 25,000					\$ 25,000
Vehicles	\$ 75,000					\$ 75,000
Contingency	\$ 235,556					\$ 235,556
Total	\$ 4,500,000		\$ 2,518,334		\$ 640,525	\$ 1,727,641

Terms

FTTx - fiber optic transmission system

OSP - outside plant

NOC - network operations center

OLT - optical line terminal